

SECTION 1 - ENGINEERING DATA

1.1 Engineering Summary

Alexander No.1 is located in EP4 (Exploration Permit 4), McArthur Basin, N.T., 190km. due east of Mataranka (Figure 1). The hole was drilled to test the hydrocarbon prospectivity of the Roper Group in the McArthur Basin. The hole was drilled by Pacific Oil and Gas Pty Limited, the permit holder and operator, using ROCKDRIL Contractors Pty. Limited's modified MINDRILL 55 (Longyear 550 - Rig 18).

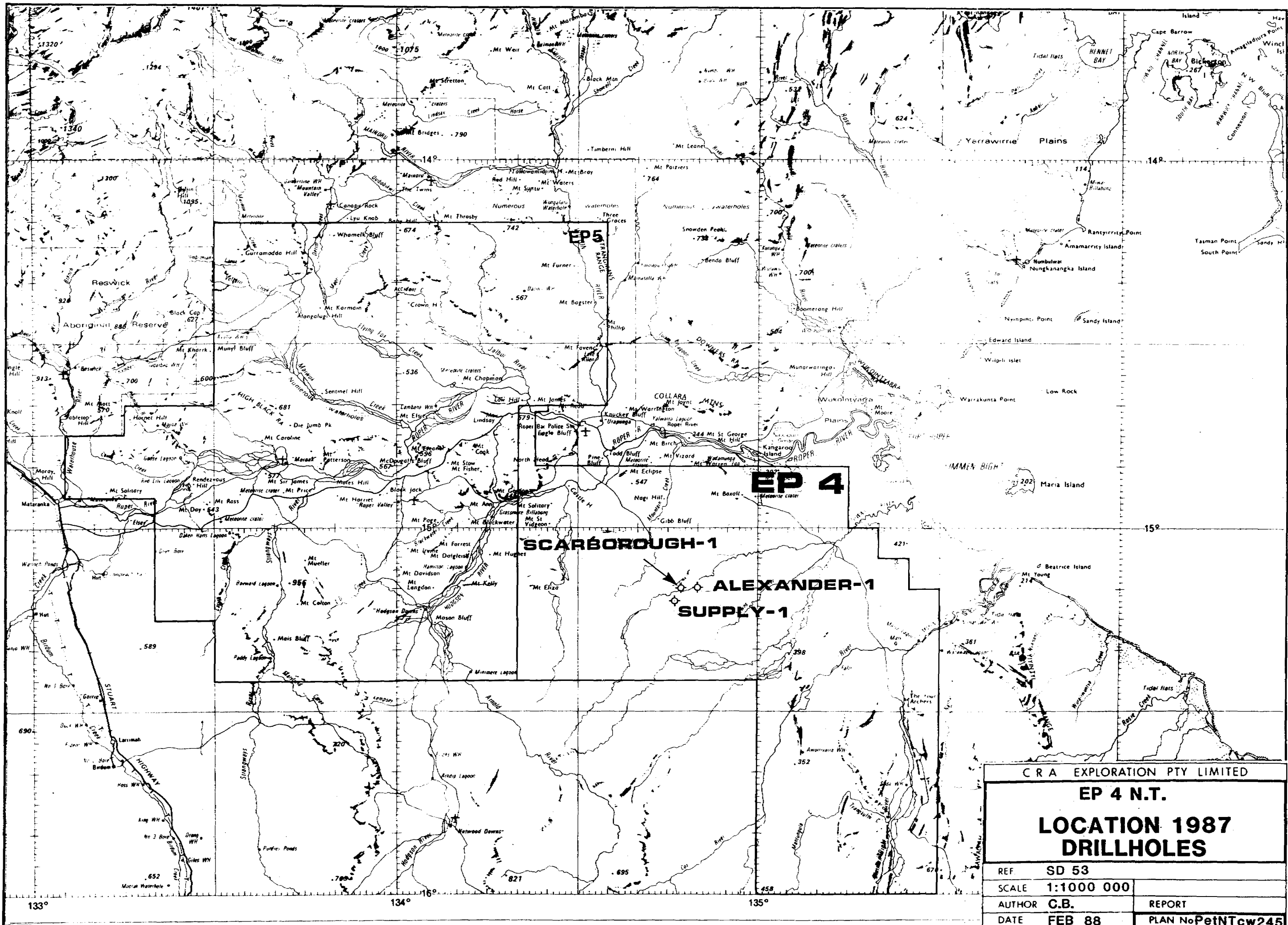
Access preparation involved upgrading of existing pastoral roads and seismic (Amoco, 1983) lines, while drill pad preparation required bulldozing of scrub over an area 50m x 50m. Water for drilling was supplied from a natural catchment 2km. from the drillsite, potable water was carted from a waterhole approximately 15km. from camp.

Alexander-1 was spudded at 1755 hours on the 31st July, 1987. A 7-1/8" hole was rotary drilled to 10.9m and 6-5/8" AB casing set as conductor. A 101mm hole was drilled below 46.6m, after rotary drilling in 5-5/8" to that depth was considered to be too slow. The hole was then reamed to 5-5/8" from 101mm to a depth of 71.8m. Casing (5" K55) was set at 71.8m and B.O.P.'s nipples up and tested at this depth, prior to drilling out cement with a 101mm bit. A formation integrity test was conducted 3m. below the casing shoe.

Fully cored drilling continued to 689.3m (TD) with a 101mm bit.

Electric logs were run on 5th September, 1987 at the total depth of 689.3m. These logs consisted of gamma, density, caliper and porosity from 5m. to 682m., self potential and dual spaced focussed electric log from 68m. to 683m. and gamma, caliper and sonic log from 5m. to 677m.

The well was plugged (with a 40m. plug at 620m. and a 40m. casing shoe plug) and abandoned on 7th September, 1987. Total time from spud to rig release was 37 days.



C R A EXPLORATION PTY LIMITED	
EP 4 N.T.	
LOCATION 1987 DRILLHOLES	
REF.	SD 53
SCALE	1:1000 000
AUTHOR	C.B.
DATE	FEB 88
REPORT	PLAN NoPetNTcw245

Figure 1

3.

1.2 General Data

Well Name and number	Alexander-1
Operator	Pacific Oil & Gas Pty Limited
Interest Holders	Pacific Oil & Gas Pty Limited 100%
Petroleum Title	EP4, Northern Territory
Location:	
1:250,000 sheet	Hodgson Downs SD5314
1:100,000 sheet	St Vidgeon 5867
Latitude	15°10'14"
Longitude	134°51'17"
Metric grid reference	484394SE 83227906N
Seismic (Amoco 1983)	Line 83-168, SP 745
Elevation	(approx 60-80m AMSL)
Total Depth	689.3m (Driller) 683.28m (Logger)
Commencement date	31/07/87
Total depth reached	5/09/87
Completion date	7/09/87
Drilled by	ROCKDRIL Contractors P/L
Drilling rig	RIG 18
Hole size	CHD 101
Plugging Details	40m plug at 620m 40m plug at casing shoe
Logs	Spontaneous Potential Dual Focussed Resistivity Gamma, Dual Density, Caliper Gamma, Dual Spaced Neutron Multichannel Sonic

1.3 Drilling Rig

ROCKDRIL RIG 18 - RIG AND EQUIPMENT DESCRIPTION

- DRILLING RIG: Longyear-Model 550
1. Drawworks: Longyear single drum operation 3/4" line up to 4 parts with lockhead disc breaking system.
 2. Power: One Caterpillar type 3304T diesel engine, mechanically driving rotation and drawworks (5 speeds) and hydraulically driving holdback rams, breakout and spinning tools and chuck.

One Perkins 4.354 diesel engine hydraulically driving two (2) triplex pumps and wireline winch assembly.
 3. Mast: Box section angle type mast

Working height above sub structure-50 ft.

Static hook load capacity (4 lines) 85,000 lbs.

Racking Capacity-9,600 ft of CHD 76 drill pipe.
 4. Substructure: Allison low loader with box type drill floor and support racking capacity up to 40 tons.
 5. Rig Machinery: Longyear pipe breakout and spinning tool to handle drill pipe and casing up to 3.7".
 6. Rig Pumps: Two (2) Bean 435 triplex pumps hydraulically driven. Capacity 37 gallons/minute Rating 1200 psi.
 7. Mud Systems: Two (2) steel tanks with a capacity of 40 barrels each operating on a settling basis.

One (1) only 40 barrel mixing tank.

One (1) CD62 mono pump for mixing and desilting.

One (1) only two cone desilter bank.

5.

Two (2) only Honda centrifugal pumps for transfer, recirculating and mixing.

8. Kill mud/cement mixing:

One (1) 40 barrel tank utilizing mono pump and hoppers for mixing kill mud and cement as required.

9. B.O.P. Equipment

One (1) Regan Torus annular type blow out preventor with a 7-1/16 bore and having a working pressure of 3,000 psi.

One A.P.I. threaded wellhead and drilling spool to suit 5" A.P.I. casing.

One (1) twin choke manifold with adjustable Cameron chokes and three (3) outlets rated at 3000 psi and two inch (2") 3000 psi valves.

One (1) Hydril K80 accumulator with a storage capacity of eighty (80) gallons at 1500 psi pressure.

One (1) Oilwell D 323 triplex plunger with a rating of 3000 psi for use as a kill pump.

One (1) Guiberson type H wireline B.O.P. and oilsaver rated at 3000 psi with a type C releasing attachment.

One (1) lower kelly cock (2.75") with a rating of 3000 psi.

10. Tubular Equipment:

CHD 101 drill pipe (800 metres) and barrels 4-3/4" Collars and Stabilizers.

11. Utility and Auxilary Equipment:

One (1) Caterpillar power generating unit (output 135 k.v.a.).

One (1) fully equipped workshop container carrying tools and spare parts.

Two (2) Toyota Landcruiser utilities.

1.6 Mud Record

See Appendix I for full details.

1.7 Water Supply

The water supply for drilling was initially from a natural catchment approximately 2km. from the drill site. As this was depleted water was carted 14km. from a water hole. Potable water was carted from a clean fresh waterhole 15km. from camp.

1.8 Bit and Deviation Record

Bits:

A total of twelve bits were used in the drilling of Alexander-1.

Full details are given in Appendix II.

Deviation

A summary of the deviation surveys recorded is given in Table 1.

1.9 Fishing Operations

Nil

1.10 Sidetracked Hole

Nil

1.11 Formation Testing

Nil

TABLE 1

DEVIATION SURVEY SUMMARY

WELL: ALEXANDER-1
LOCATION: EP4, NORTHERN TERRITORY

DEPTH (metres)	DEVIATION (degrees)
215	0.5
506	1.0

Using Eastman Camera supplied by Eastman Christiansen
- Sale Victoria.

1.12 Time Analysis

An account of the time spent on the well from spud to rig release is given in Table 2 (and detailed in Appendix I), and the time/depth curve for Alexander-1 is included as Figure 2.

1.13 Costs

An account of costs is compiled below:

Operation/Item	Cost \$A	Total \$A
Rotary Drilling Costs	\$80/metre	
Coring Costs	0 - 99m \$90/m 100-199m \$95/m 200-299m \$100/m 300-399m \$105/m 400-499m \$110/m 500-599m \$115/m 600-699m \$120/m	
Work Rate	\$140/hr	
Standby	\$105/hr	
Camp	\$37.50/man/day	Average \$650/day
Earthworks	average \$120/day	
Fuel	average \$200/day	
Others	- Vehicles \$220/day - Site manager \$150/day - Staff \$900/day - Genset \$ 45/day - Eastman camera \$ 45/day - Caravan \$200/week ATCO \$180/week Watertank \$150/week	

Total Cost Alexander-1

\$191,646

Extra costs for entire drill programme
Mobe/Demobe \$18,000.

TABLE 2

(APPROXIMATE)
TIME ANALYSISWELL: ALEXANDER-1
PERMIT: EP4, NORTHERN TERRITORY

O P E R A T I O N	T I M E (hrs)	P E R C E N T A G E T O T A L T I M E
Rig Up/Tear down	2	0.4
Drill Actual	298.25	53.6
Reaming	25	4.5
Coring	7	1.2
Condition/Circulate	35.5	6.4
Trips	57	10.2
Repair Rig	40.75	7.3
Deviation Survey	1	0.2
Wireline Logs	11.5	2.0
Run casing and Cement	8.5	1.5
Wait on cement	24.5	4.4
Nipple up BOP	9	1.6
Test BOP/Drill	5.25	0.9
Drill String Test	4.25	0.8
Plug Back	1	0.2
Rig shift	6.5	1.2
Fishing	7	1.2
Pre Test	1	0.2
Inner Tube	1	0.2
Waiting on equipment	4.75	0.8
Squeeze Cement	3.25	0.6
Mud work	2	0.4
	556 hrs	100.0

TIME - DEPTH CURVE

ALEXANDER - 1

